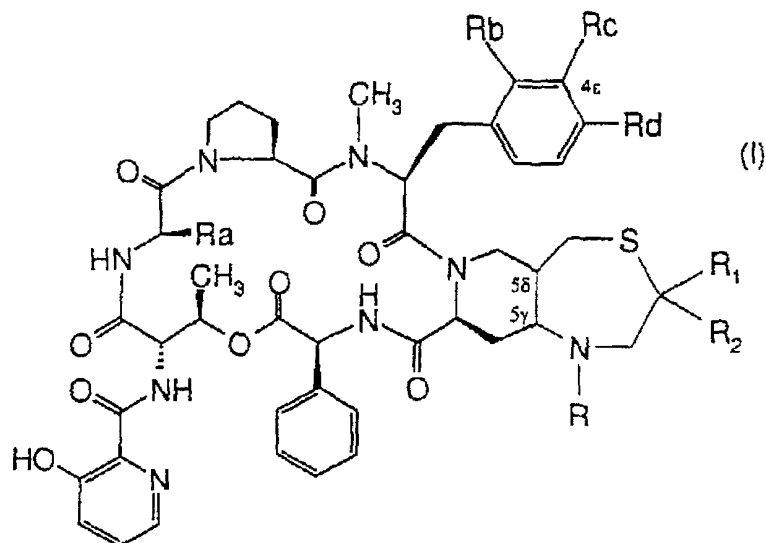


WHAT IS CLAIMED IS:

1. A group B streptogramin derivative of formula (I) or a salt thereof:



wherein:

R is chosen from a hydrogen atom, a methyl group, alkyl groups of formula $R'-CH_2-$,

wherein R' is chosen from straight and branched alkyl groups, and acyl groups unsubstituted or substituted with a hydroxyl group,

R_1 and R_2 , which are identical or different, are each chosen from a hydrogen atom and alkyl groups,

R_a is chosen from a methyl group and an ethyl group, and

R_b , R_c and R_d are defined as follows:

- 1) Rb and Rc are each a hydrogen atom, and Rd is chosen from a hydrogen atom, a methylamino group, and a dimethylamino group, or
- 2) Rb is a hydrogen atom, Rc is chosen from a hydrogen atom, a chlorine atom, a bromine atom, and C₃-C₅ alkenyl groups, and Rd is chosen from -N(CH₃)-R''' groups, wherein R''' is chosen from:
 - (a) alkyl groups,
 - (b) C₂-C₄ hydroxyalkyl groups,
 - (c) unsubstituted C₂-C₈ alkenyl groups,
 - (d) C₂-C₈ alkenyl groups substituted with (i) an unsubstituted or substituted phenyl group, (ii) an unsubstituted or substituted cycloalkyl(C₃-C₆)methyl group, (iii) an unsubstituted benzyl group, (iv) a benzyl group substituted with at least one substituent chosen from halogen atoms, a hydroxyl group, alkyl groups, alkyloxy groups, alkylthio groups, alkylsulphinyl groups, alkylsulphonyl groups, an amino group, alkylamino groups, and dialkylamino groups, or (v) heterocyclylmethyl groups and heterocyclylethyl groups, wherein the heterocyclyl portions of said heterocyclylmethyl groups and said heterocyclylethyl groups are chosen from saturated and unsaturated 5- or 6-membered heterocyclyl groups comprising from 1 or 2 heteroatoms chosen from a sulphur atom, an oxygen atom, and a nitrogen atom, and wherein said heterocyclyl groups are unsubstituted

or substituted with a group chosen from alkyl groups, C₂-C₈ alkenyl groups, C₃-C₆ cycloalkyl groups, saturated and unsaturated 4- to 6-membered heterocyclyl groups, an unsubstituted phenyl group, a benzyl group, or a phenyl group substituted with at least one substituent chosen from halogen atoms, a hydroxyl group, alkyl groups, alkyloxy groups, alkylthio groups, alkylsulphinyl groups, alkylsulphonyl groups, an amino group, alkylamino groups, and dialkylamino groups,

(e) a cyanomethyl group,

(f) a carboxymethyl group, and

(g) -C(OR_e) groups and -CH₂C(OR_e) groups, wherein R_e is chosen from

(i) -OR_e groups, wherein R_e is chosen from C₁-C₆ alkyl groups, C₂-C₆ alkenyl groups, a benzyl group, and heterocyclylmethyl groups, wherein said heterocyclyl portion is chosen from 5- or 6- membered heterocyclyl groups comprising from 1 or 2 heteroatoms chosen from a sulphur atom, an oxygen atom, and a nitrogen atom, (ii) alkylamino groups, (iii) alkylmethylamino groups, (iv) heterocyclylamino groups and heterocyclylmethylamino groups, wherein said heterocyclyl portion of said heterocyclylamino groups and said heterocyclylmethylamino groups is chosen from 5- or 6-membered saturated heterocyclyl groups comprising from 1 or 2 heteroatoms chosen from a sulphur atom, an

oxygen atom, and a nitrogen atom, and wherein said heterocyclyl groups are unsubstituted or substituted with a group chosen from alkyl groups, a benzyl group, and alkyloxycarbonyl groups, or

- 3) Rb is a hydrogen atom, Rd is chosen from an -NHCH_3 group and an $\text{-N(CH}_3)_2$ group, and Rc is chosen from a chlorine atom and a bromine atom, and when Rd is an $\text{-N(CH}_3)_2$ group, Rc is chosen from $\text{C}_3\text{-C}_5$ alkenyl groups, or
- 4) Rb and Rd are each a hydrogen atom, and Rc is chosen from halogen atoms, alkylamino groups, dialkylamino groups, alkyloxy groups, a trifluoromethoxy group, thioalkyl groups, $\text{C}_1\text{-C}_6$ alkyl groups, and trihalomethyl groups, or
- 5) Rb and Rc are each a hydrogen atom, and Rd is chosen from halogen atoms, an ethylamino group, a diethylamino group, a methylethylamino group, alkyloxy groups, a trifluoromethoxy group, alkylthio groups, alkylsulfinyl groups, alkylsulfonyl groups, $\text{C}_1\text{-C}_6$ alkyl groups, a phenyl group, and trihalomethyl groups, or
- 6) Rb is a hydrogen atom, Rc is chosen from halogen atoms, alkylamino groups, dialkylamino groups, alkyloxy groups, a trifluoromethoxy group, thioalkyl groups, and $\text{C}_1\text{-C}_3$ alkyl groups, and Rd is chosen from halogen atoms, an amino group, alkylamino groups, dialkylamino groups, alkyloxy groups, a trifluoromethoxy group, thioalkyl groups, $\text{C}_1\text{-C}_6$ alkyl groups, and trihalomethyl groups, or
- 7) Rc is a hydrogen atom, and Rb and Rd are each a methyl group,
- unless stated otherwise, said alkyl groups are chosen from straight and branched, unsubstituted or substituted $\text{C}_1\text{-C}_4$ alkyl groups, and

unless stated otherwise, said acyl groups are chosen from straight and branched, unsubstituted or substituted C₁-C₄ acyl groups, and wherein said group B streptogramin derivative of formula (I) is chosen from 5 γ (R),5 δ (S) group B streptogramin derivatives, salts thereof, 5 γ (S),5 δ (R) group B streptogramin derivatives, salts thereof, and mixtures of any of the foregoing.

2. A group B streptogramin derivative according to claim 1, wherein:

R is chosen from a hydrogen atom, a methyl group, alkyl groups of formula R'-CH₂-, wherein R' is chosen from straight and branched alkyl groups, and acyl groups unsubstituted or substituted with a hydroxyl group,

R₁ and R₂, which are identical or different, are each chosen from a hydrogen atom and alkyl groups,

Ra is an ethyl group, and

Rb, Rc, and Rd are defined as follows:

1) Rb and Rc are each a hydrogen atom, and

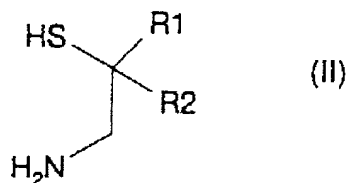
Rd is chosen from a methylamino group and a dimethylamino group, or

2) Rb is a hydrogen atom,

Rd is chosen from an -NHCH₃ group and an -N(CH₃)₂ group, and

Rc is a chlorine atom.

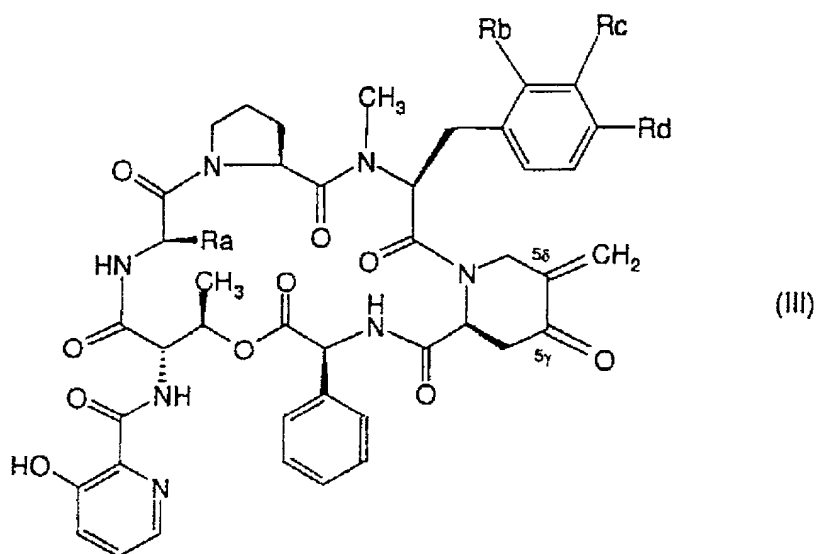
3. A group B streptogramin derivative according to claim 1, wherein said streptogramin is $5\gamma(S), 5\delta(R)[5\gamma a, 5\delta b]-1,4$ -hexahydrothiazepinopristinamycin IE.
4. A group B streptogramin derivative according to claim 1, wherein said streptogramin is 4ϵ -chloro- $5\gamma(S), 5\delta(R)[5\gamma a, 5\delta b]-1,4$ -hexahydrothiazepinopristinamycin IE.
5. A group B streptogramin derivative according to claim 1, wherein said streptogramin is $5\gamma(R), 5\delta(S)-2,2$ -dimethyl- $[5\gamma a, 5\delta b]-1,4$ -hexahydrothiazepinopristinamycin IE.
6. A group B streptogramin derivative according to claim 1, wherein said streptogramin is $5\gamma(S), 5\delta(R)-2,2$ -dimethyl-4-(4-hydroxybutyryl) $[5\gamma a, 5\delta b]-1,4$ -hexahydrothiazepino-pristinamycin IE.
7. A process for preparing at least one group B streptogramin derivative of formula (I) according to claim 1, said process comprising:
- A) reacting an amino mercaptan of formula (II):



wherein

R₁ and R₂, which are identical or different, are each chosen from a hydrogen atom and alkyl groups,

with a streptogramin derivative of formula (III):



wherein

Ra is chosen from a methyl group and an ethyl group, and

Rb, Rc and Rd are defined as follows:

- 1) Rb and Rc are each a hydrogen atom, and Rd is chosen from a hydrogen atom, a methylamino group, and a dimethylamino group, or
- 2) Rb is a hydrogen atom, Rc is chosen from a hydrogen atom, a chlorine atom, a bromine atom, and C₃-C₅ alkenyl groups, and Rd is chosen from -N(CH₃)-R''' groups, wherein R''' is chosen from:

- (a) alkyl groups,
- (b) C₂-C₄ hydroxyalkyl groups,
- (c) unsubstituted C₂-C₈ alkenyl groups,
- (d) C₂-C₈ alkenyl groups substituted with (i) an unsubstituted or substituted phenyl group, (ii) an unsubstituted or substituted cycloalkyl(C₃-C₆)methyl group, (iii) an unsubstituted benzyl group, (iv) a benzyl group substituted with at least one substituent chosen from halogen atoms, a hydroxyl group, alkyl groups, alkyloxy groups, alkylthio groups, alkylsulphinyl groups, alkylsulphonyl groups, an amino group, alkylamino groups, and dialkylamino groups, or (v) heterocyclylmethyl groups and heterocyclylethyl groups, wherein said heterocyclyl portions of said heterocyclylmethyl groups and said heterocyclylethyl groups are chosen from saturated and unsaturated 5- or 6-membered heterocyclyl groups comprising from 1 or 2 heteroatoms chosen from a sulphur atom, an oxygen atom, and a nitrogen atom, and wherein said heterocyclyl groups are unsubstituted or substituted with a group chosen from alkyl groups, C₂-C₈ alkenyl groups, C₃-C₆ cycloalkyl groups, saturated and unsaturated 4- to 6-membered heterocyclyl groups, an unsubstituted phenyl group, a benzyl group, or a phenyl group substituted with at least one substituent chosen from halogen atoms, a hydroxyl group, alkyl

groups, alkyloxy groups, alkylthio groups, alkylsulphinyl groups, alkylsulphonyl groups, an amino group, alkylamino groups, and dialkylamino groups,

(e) a cyanomethyl group,

(f) a carboxymethyl group, and

(g) a -C(=O)R^e groups and -CH₂C(=O)R^e groups, wherein R^e is chosen from

(i) -OR^e groups, wherein R^e is chosen from C₁-C₆ alkyl groups, C₂-C₆ alkenyl groups, a benzyl group, and heterocyclylmethyl groups, wherein said heterocyclyl portion is chosen from 5- or 6- membered heterocyclyl groups comprising from 1 or 2 heteroatoms chosen from a sulphur atom, an oxygen atom, and a nitrogen atom, (ii) alkylamino groups, (iii) alkylmethylamino groups, (iv) heterocyclylamino groups and heterocyclylmethylamino groups, wherein said heterocyclyl portion of said heterocyclylamino groups and said heterocyclylmethylamino groups is chosen from 5- or 6-membered saturated heterocyclyl groups comprising from 1 or 2 heteroatoms chosen from a sulphur atom, an oxygen atom, and a nitrogen atom, and wherein said heterocyclyl groups are unsubstituted or substituted with a group chosen from alkyl groups, a benzyl group, and alkyloxycarbonyl groups, or

- 3) Rb is a hydrogen atom, Rd is chosen from an -NHCH_3 group and an $\text{-N(CH}_3)_2$ group, and Rc is chosen from a chlorine atom and a bromine atom, and when Rd is an $\text{-N(CH}_3)_2$ group, Rc is chosen from $\text{C}_3\text{-C}_5$ alkenyl groups, or
 - 4) Rb and Rd are each a hydrogen atom, and Rc is chosen from halogen atoms, alkylamino groups, dialkylamino groups, alkyloxy groups, a trifluoromethoxy group, thioalkyl groups, $\text{C}_1\text{-C}_6$ alkyl groups, and trihalomethyl groups, or
 - 5) Rb and Rc are each a hydrogen atom, and Rd is chosen from halogen atoms, an ethylamino group, a diethylamino group, a methylethylamino group, alkyloxy groups, a trifluoromethoxy group, alkylthio groups, alkylsulfinyl groups, alkylsulfonyl groups, $\text{C}_1\text{-C}_6$ alkyl groups, a phenyl group, and trihalomethyl groups, or
 - 6) Rb is a hydrogen atom, Rc is chosen from halogen atoms, alkylamino groups, dialkylamino groups, alkyloxy groups, a trifluoromethoxy group, thioalkyl groups, and $\text{C}_1\text{-C}_3$ alkyl groups, and Rd is chosen from halogen atoms, an amino group, alkylamino groups, dialkylamino groups, alkyloxy groups, a trifluoromethoxy group, thioalkyl groups, $\text{C}_1\text{-C}_6$ alkyl groups, and trihalomethyl groups, or
 - 7) Rc is a hydrogen atom, and Rb and Rd are each a methyl group,
- to prepare at least one 5δ -aminoethylthiomethyl derivative,
- B) reducing said at least one 5δ -aminoethylthiomethyl derivative prepared above in (A) to prepare at least one group B streptogramin derivative according to claim 1,
 - C) optionally separating said at least one group B streptogramin derivative,

- D) optionally substituting, at the R position of formula (I), said at least one group B streptogramin derivative prepared in (B) or (C) above with an R group chosen from a hydrogen atom, a methyl group, alkyl groups of formula $R'-CH_2-$, wherein R' is chosen from straight and branched alkyl groups, and acyl groups unsubstituted or substituted with a hydroxyl group, and
- E) optionally converting at least one streptogramin derivative prepared in (B), (C), or (D) above to an acid addition salt.

8. A process according to claim 7, wherein said substitution with an R group comprises reacting, in a reductive medium, a corresponding streptogramin derivative for which R is a hydrogen atom with an aldehyde of formula (IV):



wherein R is chosen from a methyl group and alkyl groups of formula $R'-CH_2-$, wherein R' is chosen from straight and branched alkyl groups, to obtain a group B streptogramin derivative of formula (I), wherein R is chosen from a methyl group and alkyl groups of formula $R'-CH_2-$, wherein R' is chosen from straight and branched alkyl groups.

9. A process according to claim 7, wherein said substitution with an R group comprises acylating a corresponding streptogramin derivative for which R is a hydrogen atom by any known method that does not affect the rest of the molecule to obtain a group B

streptogramin derivative of formula (I), wherein R is chosen from acyl groups unsubstituted or substituted with a hydroxyl group.

10. A pharmaceutical composition comprising at least one group B streptogramin derivative of formula (I) or salt thereof according to claim 1.

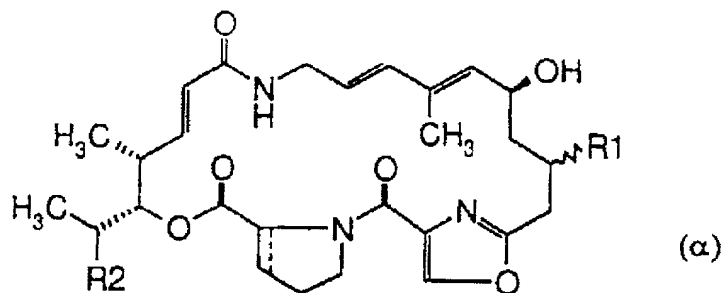
11. A pharmaceutical composition according to claim 10, further comprising at least one group A streptogramin derivative or salt thereof.

12. A pharmaceutical composition according to claim 10, further comprising at least one compatible agent chosen from pharmaceutically acceptable diluents and pharmaceutically acceptable adjuvants.

13. A pharmaceutical composition according to claim 11, further comprising at least one compatible agent chosen from pharmaceutically acceptable diluents and pharmaceutically acceptable adjuvants.

14. A pharmaceutical composition according to claim 11, wherein said at least one group A streptogramin derivative or salt thereof is chosen from (A) pristinamycin IIA, pristinamycin IIB, pristinamycin IIC, pristinamycin IID, pristinamycin IIE, pristinamycin IIF,

and pristinamycin IIG, (B) semisynthetic group A streptogramin derivatives, (C) derivatives of formula (α) and salts thereof:



wherein:

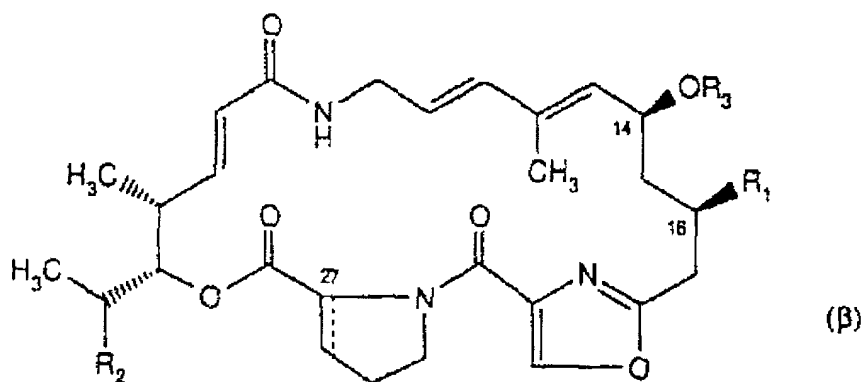
R_1 is chosen from

- (a) $-NR'R''$ groups, wherein R' is chosen from a hydrogen atom and a methyl group, and R'' is chosen from a hydrogen atom, alkyl groups, cycloalkyl groups, an allyl group, a propargyl group, and a benzyl group,
- (b) $-OR'''$ groups, wherein R''' is chosen from a hydrogen atom, alkyl groups, cycloalkyl groups, an allyl group, a propargyl group, and a benzyl group, and
- (c) $-NR_3R_4$ groups, wherein R_3 and R_4 are each a methyl group or form, together with the nitrogen atom to which they are attached, a saturated or unsaturated 4- or 5-membered heterocycle optionally comprising, in addition to said nitrogen atom, a hetero atom chosen from a nitrogen atom, an oxygen atom, and a sulfur atom,

R_2 is chosen from a hydrogen atom, a methyl group, and an ethyl group, and

the bond \equiv is a single bond or a double bond,

(D) semisynthetic derivatives of formula (β) and salts thereof:



wherein:

R₁ is chosen from halogen atoms, an azido group, and a thiocyanato group,

R₂ is chosen from a hydrogen atom, a methyl group, and an ethyl group,

R₃ is chosen from a hydrogen atom and unsubstituted or substituted aliphatic ester

residues, unsubstituted or substituted cycloaliphatic ester residues, unsubstituted or

substituted aromatic ester residues, unsubstituted or substituted araliphatic ester

residues, unsubstituted or substituted heterocyclic ester residues, and unsubstituted

or substituted heterocyclaliphatic ester residues, and

the bond \equiv is a single bond (27R stereochemistry) or a double bond.

15. A pharmaceutical composition according to claim 14, wherein said R_3 of said semisynthetic derivatives of formula (β) and salts thereof is an R'_3 -CO- group, wherein R'_3 is chosen from:

(A) an unsubstituted or substituted phenyl group and unsubstituted or substituted phenylalkyl groups, wherein, when R'_3 is a substituted phenyl group or a substituted phenylalkyl group, the phenyl portion is substituted with at least one substituent chosen from

(1) alkyl groups, unsubstituted or substituted with an $NR''R'''$ group, wherein

(a) R'' and R''' , which are identical or different, are each chosen from a hydrogen atom and alkyl groups which can form, together with the nitrogen atom to which they are attached, a saturated or unsaturated 3- to 8-membered heterocyclyl group, optionally comprising, in addition to said nitrogen atom, another hetero atom chosen from an oxygen atom, a sulfur atom, and a nitrogen atom, wherein said heterocyclyl group is unsubstituted or substituted with at least one group chosen from saturated and unsaturated 3- to 8-membered alkyl groups, saturated and unsaturated 3- to 8-membered hydroxyalkyl groups, saturated and unsaturated 3- to 8-membered alkyloxyalkyl groups, saturated and unsaturated 3- to 8-membered alkyloxycarbonylalkyl groups, saturated and unsaturated 3- to 8-

membered aryl groups, saturated and unsaturated 3- to 8-membered heterocyclyl groups, saturated and unsaturated 3- to 8-membered heterocyclylalkyl groups, and $-\text{CH}_2\text{-CO-NR}''\text{R}'''$ groups, wherein $\text{NR}''\text{R}'''$ is defined as above, or

(b) R'' and R''' , which are identical or different, are each chosen from

(i) hydroxyalkyl groups, (ii) a phenyl group, and (iii) saturated and unsaturated 3- to 8-membered heterocyclylalkyl groups,

(2) alkyl groups unsubstituted or substituted with a $-\text{CO-NR}''\text{R}'''$ group, wherein $\text{NR}''\text{R}'''$ is defined as above,

(3) alkyl groups substituted with an $\text{NR}''\text{R}'''$ group as defined above, and

(4) acyl groups substituted with an $\text{NR}''\text{R}'''$ group as defined above,

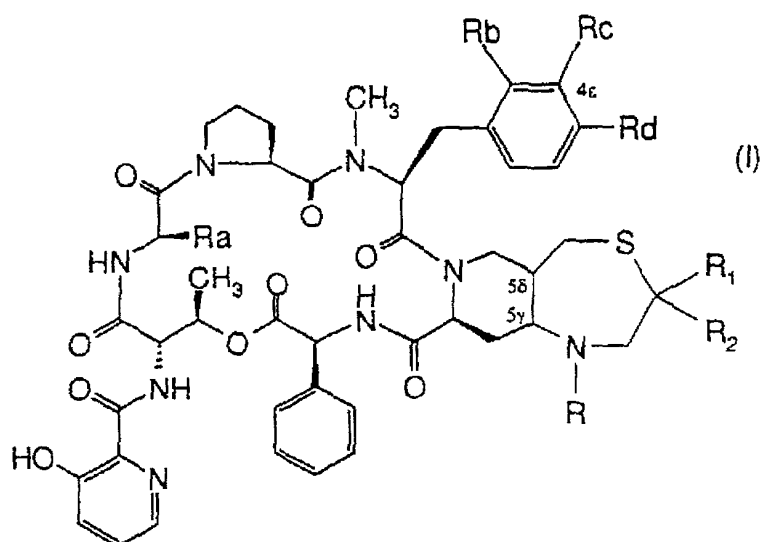
(B) a substituted phenyl group and substituted phenylalkyl groups, wherein said phenyl group or phenyl portion of said phenylalkyl is substituted with at least one substituent chosen from (a) alkyl groups, unsubstituted or substituted with at least one group chosen from alkyloxy groups and alkylthio groups, wherein said alkyloxy groups or said alkylthio groups are unsubstituted or substituted with a carboxyl group or an $\text{NR}''\text{R}'''$ group as defined above, and (b) acyloxy groups which are unsubstituted or substituted with an $\text{NR}''\text{R}'''$ group as defined above,

(C) alkyl groups and cycloalkyl groups, wherein said alkyl groups and said cycloalkyl groups are unsubstituted or substituted with at least one group chosen from

(a) a carboxyl group, (b) carboxyalkyldisulfanyl groups, (c) $\text{NR}''\text{R}'''$ groups, $-\text{CH}_2\text{NR}''\text{R}'''$ groups, and $-\text{CO-NR}''\text{R}'''$ groups, wherein $\text{NR}''\text{R}'''$ is defined as above, (d) alkyloxycarbonyl groups, alkyloxy groups, and alkyldisulfanyl groups, wherein said alkyloxycarbonyl groups, said alkyloxy groups, and said alkyldisulfanyl groups are unsubstituted or substituted with an $\text{NR}''\text{R}'''$ group or a $-\text{CO-NR}''\text{R}'''$ group, wherein $\text{NR}''\text{R}'''$ is defined as above, and

(D) saturated and unsaturated 3- to 8-membered heterocyclyl groups, which are unsubstituted or substituted with at least one substituent chosen from alkyl groups and acyl groups, wherein said alkyl groups and said acyl groups are unsubstituted or substituted with an $\text{NR}''\text{R}'''$ group as defined above.

16. A combination of at least one group B streptogramin derivative chosen from group B streptogramin derivatives of formula (I) and salts thereof:



wherein:

R is chosen from a hydrogen atom, a methyl group, alkyl groups of formula $R'-CH_2-$, wherein R' is chosen from straight and branched alkyl groups, and acyl groups unsubstituted or substituted with a hydroxyl group,

R_1 and R_2 , which are identical or different, are each chosen from a hydrogen atom and alkyl groups,

R_a is chosen from a methyl group and an ethyl group, and

R_b , R_c and R_d are defined as follows:

- 1) R_b and R_c are each a hydrogen atom, and R_d is chosen from a hydrogen atom, a methylamino group, and a dimethylamino group, or
- 2) R_b is a hydrogen atom, R_c is chosen from a hydrogen atom, a chlorine atom, a bromine atom, and C_3-C_5 alkenyl groups, and R_d is chosen from $-N(CH_3)-R'''$ groups, wherein R''' is chosen from:

- (a) alkyl groups,
- (b) C_2-C_4 hydroxyalkyl groups,
- (c) unsubstituted C_2-C_8 alkenyl groups,
- (d) C_2-C_8 alkenyl groups substituted with (i) an unsubstituted or substituted phenyl group, (ii) an unsubstituted or substituted cycloalkyl(C_3-C_6)methyl group, (iii) an unsubstituted benzyl group, (iv) a benzyl group substituted with at least one substituent chosen

from halogen atoms, a hydroxyl group, alkyl groups, alkyloxy groups, alkylthio groups, alkylsulphinyl groups, alkylsulphonyl groups, an amino group, alkylamino groups, and dialkylamino groups, or (v) heterocyclymethyl groups and heterocyclylethyl groups, wherein said heterocyclyl portions of said heterocyclymethyl groups and said heterocyclylethyl groups are chosen from saturated and unsaturated 5- or 6-membered heterocyclyl groups comprising from 1 or 2 heteroatoms chosen from a sulphur atom, an oxygen atom, and a nitrogen atom, and wherein said heterocyclyl groups are unsubstituted or substituted with a group chosen from alkyl groups, C₂-C₈ alkenyl groups, C₃-C₆ cycloalkyl groups, saturated and unsaturated 4- to 6-membered heterocyclyl groups, an unsubstituted phenyl group, a benzyl group, or a phenyl group substituted with at least one substituent chosen from halogen atoms, a hydroxyl group, alkyl groups, alkyloxy groups, alkylthio groups, alkylsulphinyl groups, alkylsulphonyl groups, an amino group, alkylamino groups, and dialkylamino groups,

(e) a cyanomethyl group,

(f) a carboxymethyl group, and

(g) -C(=O)R^e groups and -CH₂C(=O)R^e groups, wherein R^e is chosen from

(i) -OR^e groups, wherein R^e is chosen from C₁-C₆ alkyl groups, C₂-C₆

alkenyl groups, a benzyl group, and heterocyclylmethyl groups, wherein said heterocyclyl portion is chosen from 5- or 6- membered heterocyclyl groups comprising from 1 or 2 heteroatoms chosen from a sulphur atom, an oxygen atom, and a nitrogen atom, (ii) alkylamino groups, (iii) alkylmethylamino groups, (iv) heterocyclylamino groups and heterocyclylmethylamino groups, wherein said heterocyclyl portion of said heterocyclylamino groups and said heterocyclylmethylamino groups is chosen from 5- or 6-membered saturated heterocyclyl groups comprising from 1 to 2 heteroatoms chosen from a sulphur atom, an oxygen atom, and a nitrogen atom, and wherein said heterocyclyl groups are unsubstituted or substituted with a group chosen from alkyl groups, a benzyl group, and alkyloxycarbonyl groups, or

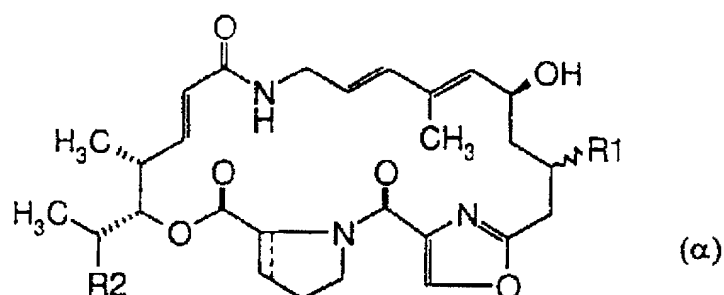
- 3) Rb is a hydrogen atom, Rd is chosen from an -NHCH_3 group and an $\text{-N(CH}_3)_2$ group, and Rc is chosen from a chlorine atom and a bromine atom, and when Rd is an $\text{-N(CH}_3)_2$ group, Rc is chosen from $\text{C}_3\text{-C}_5$ alkenyl groups, or
- 4) Rb and Rd are each a hydrogen atom, and Rc is chosen from halogen atoms, alkylamino groups, dialkylamino groups, alkyloxy groups, a trifluoromethoxy group, thioalkyl groups, $\text{C}_1\text{-C}_6$ alkyl groups, and trihalomethyl groups, or
- 5) Rb and Rc are each a hydrogen atom, and Rd is chosen from halogen atoms, and an ethylamino group, a diethylamino group, a methylethylamino group, alkyloxy

groups, a trifluoromethoxy group, alkylthio groups, alkylsulfinyl groups, alkylsulfonyl groups, C₁-C₆ alkyl groups, a phenyl group, and trihalomethyl groups, or

- 6) R_b is a hydrogen atom, R_c is chosen from halogen atoms, alkylamino groups, dialkylamino groups, alkyloxy groups, a trifluoromethoxy group, thioalkyl groups, and C₁-C₃ alkyl groups, and R_d is chosen from halogen atoms, an amino group, alkylamino groups, dialkylamino groups, alkyloxy groups, a trifluoromethoxy group, thioalkyl groups, C₁-C₆ alkyl groups, and trihalomethyl groups, or

- 7) R_c is a hydrogen atom, and R_b and R_d are each a methyl group, unless stated otherwise, said alkyl groups are chosen from straight and branched, unsubstituted or substituted C₁-C₄ alkyl groups, and unless stated otherwise, said acyl groups are chosen from straight and branched, unsubstituted or substituted C₁-C₄ acyl groups, and wherein said group B streptogramin is chosen from 5 γ (R),5 δ (S) group B streptogramin derivatives, salts thereof, 5 γ (S),5 δ (R) group B streptogramin derivatives, salts thereof, and mixtures of any of the foregoing,

and at least one group A streptogramin derivative chosen from (A) pristinamycin IIA, pristinamycin IIB, pristinamycin IIC, pristinamycin IID, pristinamycin IIE, pristinamycin IIF, pristinamycin IIG, and salts thereof, (B) semisynthetic group A streptogramin derivatives, and salts thereof, (C) derivatives of formula (α) and salts thereof:



wherein:

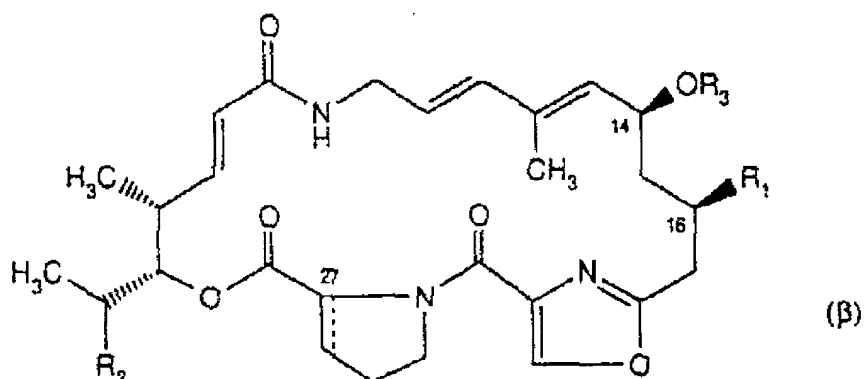
R₁ is chosen from

- (a) –NR'R'' groups, wherein R' is chosen from a hydrogen atom and a methyl group, and R'' is chosen from a hydrogen atom, alkyl groups, cycloalkyl groups, an allyl group, a propargyl group, and a benzyl group,
- (b) –OR''' groups, wherein R''' is chosen from a hydrogen atom, alkyl groups, cycloalkyl groups, an allyl group, a propargyl group, and a benzyl group, and
- (c) –NR₃R₄ groups, wherein R₃ and R₄ are each a methyl group or form, together with the nitrogen atom to which they are attached, a saturated or unsaturated 4- or 5-membered heterocycle optionally comprising, in addition to said nitrogen atom, a hetero atom chosen from a nitrogen atom, an oxygen atom, and a sulfur atom,

R₂ is chosen from a hydrogen atom, a methyl group, and an ethyl group, and

the bond --- is a single bond or a double bond, and

(D) semisynthetic derivatives of formula (β) and salts thereof:



wherein:

R₁ is chosen from halogen atoms, an azido group, and a thiocyanato group,

R₂ is chosen from a hydrogen atom, a methyl group, and an ethyl group,

R₃ is chosen from a hydrogen atom and unsubstituted or substituted aliphatic ester

residues, unsubstituted or substituted cycloaliphatic ester residues, unsubstituted or

substituted aromatic ester residues, unsubstituted or substituted araliphatic ester

residues, unsubstituted or substituted heterocyclic ester residues, and unsubstituted

or substituted heterocyclaliphatic ester residues, and

the bond --- is a single bond (27R stereochemistry) or a double bond.